

REMARKS

In the Office Action, the Examiner rejected claims 1-5, 8-11, 13-17 and 19-22 pursuant to 35 U.S.C. § 102(a,e) as being anticipated by Nakamura et al. (U.S. Patent No. 6,584,711). Claims 1-5, 7-11 and 13 were rejected pursuant to 35 U.S.C. § 102(b) as being anticipated by Beaudry et al. (U.S. Patent No. 3,092,263). Claims 8-16 were rejected pursuant to 35 U.S.C. § 102(b) as being anticipated by Robin et al. (U.S. Patent No. 5,168,645). Claims 23-33 were allowed. Claims 6 and 18 were objected to as allowable dependent claims. Applications respectfully request reconsideration of the rejections of claims 1-5, 7-17 and 19-22.

Independent claim 1 claims a drive connected so as to drive a clamp downward about a pivot joint so at least a portion of the laundry is forced away from the clamp in response to the claim being driven. Forcing the laundry away from the clamp by driving the clamp is applying centrifugal force on the laundry caused by driving rotation about the pivot joint.

Nakamura et al. do not use centrifugal forces, so does not force laundry away from a clamp in response to the clamp being driven about a pivot joint. Nakamura positions a towel as shown in Fig. 7. Five different or alternative embodiments are then separately provided for subsequent processing (Col. 10, line 15 (Figs. 8-13); Col. 11, line 1 (Figs. 14-16); Col. 11, lines 51-59 (Figs. 17-19); Col. 13, lines 12-20 (Figs. 20-24); Col. 14, lines 11-25 (Figs. 25-32)). In the second alternative embodiment (Figs. 14-16), clamps 14 clamp the towel and rotate downward (Col. 11, lines 37-45). The clamps 14 slide on the rotary arm 13 for being pushed out based on a sensor (Col. 11, lines 10-11 and 31-35). Once positioned based on the sensor (see Fig. 15), the sheet is hung down from the clamps 14 (Col. 11, lines 42-45). The rotary arm 13 is then rotated to expose an edge with a servo motor (Col. 11, lines 11-18 and 45-50). As described by Nakamura et al., gravity is used to position the laundry with the rotation merely providing positioning. There is no suggestion to drive the rotation of the clamp so that the laundry is forced away from the clamp. The rotation of Nakamura et al. is not described as being rapid or forceful enough to use rotation to force the laundry away from the clamp. Nakamura et al. do not “whip” or drive to cause sufficient centrifugal force.

Independent claim 8 requires flattening an article of laundry in response to centrifugal force of rotation. Nakamura et al. use gravity to flatten and the rotation to position. There is no suggestion to flatten by centrifugal force.

Independent claim 14 requires two conveyors separated by a narrow slot with a clamp positioned to move in the slot. Nakamura et al. do not disclose these limitations. The Examiner cites two different figures (Figs. 19 and 29) to show these limitations. However, the two figures relate to two different embodiments or different means for spreading.

Fig. 19 is part of the third means for spreading (Col. 11, line 51- Col. 13, line 11). In this embodiment, the platform 8 is a mounting stand (Col. 11, line 59). There is no suggestion that the layers of the platform are conveyors. Chucks or clamps are used to position the laundry without mention of the mounting stand conveying the laundry. Even if the mounting stand is formed from conveyors rather than a stand with rounded edges, the different sections are shown as being overlapping layers (see Figs. 18 and 19). Figs. 18 shows the laundry "cascading" over one edge and down onto another portion. Given the perspective shown, there is no slot between the mounting stand levels, only a difference in height to expose the sheet for the clamps of Fig. 19. The third means for spreading (Fig. 19) does not disclose two conveyors and does not disclose two conveyors separated by a narrow slot with a clamp positioned to move in the slot.

Fig. 29 is part of the fifth means for spreading (Col. 14, lines 11-13). As shown in Figs 29 and 30, the clamps 39 and 40 as well as the clamps 48 and 49 are positioned over or beside the conveyors 41 and 42 (Col. 14, line 57- Col. 15, line 17). The slot is used to droop the laundry so that the edges are detected at the proper position on both conveyors. The fifth means for spreading (Fig. 29) does not have a clamp positioned to move in a slot between the conveyors.

Independent claim 20 claims clamping laundry between two conveyors. As discussed above, Nakamura et al. does not disclose an embodiment with these limitations.

Dependent claims 2-5, 9-11, 13, 15-17, 19 and 21-22 depend from the independent claims discussed above, so are allowable for the same reasons. Further limitations of these dependent claims are not disclosed by Nakamura et al. For example, Nakamura et al. rely on gravity, not gravity and the movement of the clamp claimed in claim 5. Regarding claim 13, the sheet shown after rotation (see Fig. 16) is provided to an edge forming device (Col. 11, lines 44-50). The edge forming device is described generally at Column 1, lines 24-37. Nakamura et al. does not disclose releasing the laundry onto a surface in a flat position after the application of centrifugal force as claimed in claim 13. Regarding claim 17, the cited embodiments of Nakamura et al. clamp the laundry and remove it from the stand or conveyors. There is no suggestion to move the edge closer to one side of the conveyor in the cited embodiments.

Beaudry et al., like Nakamura et al. uses gravity and does not suggest using the force of rotation as claimed in claims 1 and 8. Beaudry et al. pulls a towel through a ring clamp, clamps a trailing portion, hangs the towel from the clamped corner and then clamps the lower most corner (Col. 4, lines 54- Col. 5, line 6). Both clamps then pivot again to prepare for the next stage in processing (Col. 5, lines 17-44). Gravity is used for the first pivot to grab a lowest hanging corner and no force is applied to move the towel away from the clamp by movement of the clamp. Beaudry et al. may rotate the clamp, but fail to disclose sufficient speed or force to force the laundry away from the clamp in response to rotation rather than mere gravity. Both ends are gripped for the second pivot, so there is no forcing the laundry away from the clamp.

Dependent claims 2-5 7, 9-11 and 13 depend from independent claims 1 and 8, so are allowable for the same reasons. Further limitations of the dependent claims are not disclosed by Beaudry et al. Beaudry et al does not disclose using both gravity and movement of the clamp to extend the article of laundry as claimed in claim 5. The pivot point to the clamps 20, 21 is at a same level as the conveyor 14 (see Fig. 5), so a pivot joint above the conveyor as claimed in claim 7 is not disclosed.

Regarding claim 8, Robin et al. do not disclose the use of rotating an entire article of laundry and flattening the laundry in response to the rotational force. The clamp 10 of Robin is one of two clamps holding the laundry. The single clamp 10 is forced from an up to a down position by a twist in the track 13b (Col. 5, lines 60-66). The change in position of the one of two clamps does not rotate the entire article of laundry. The other end is still held by a different non-rotating clamp. The change of position does not flatten the article by force of rotation.

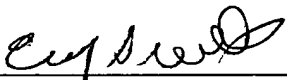
Regarding claim 14, Robin et al. does not disclose two conveyors separated by a slot narrow such that an article of laundry can rest on both conveyors at the same time. Robin et al. uses two rails 13 and 6 with clamps holding the laundry (see Fig. 2). Two rails supporting clamps are not two conveyors separated by a slot narrow such that the article of laundry is able to rest on both. If the laundry was placed on the rails 13 and 6, the laundry would fall between the rails.

Dependent claims 9-13 and 15-16 depend from the independent claims 8 and 14 discussed above, so are allowable of the same reasons. Robin et al. do not disclose limitations of the dependent claims. Regarding claim 9, the second clamp holds the laundry during rotation by the first clamp, so contact as claimed is not avoided. Regarding claim 11, two clamps grab corners along the diagonal, so rotation does not extend the towel outward in a substantially flat position. Regarding claims 15 and 16, Robin et al. use sensors before clamping to the rails, so do not disclose a sensor to detect a trailing corner on a conveyor.

CONCLUSION:

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof. If for any reason, the Examiner is unable to allow the application but believes that an interview would be helpful to resolve any issues, he is respectfully requested to call the undersigned at (312) 321-4726.

Respectfully submitted,



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